



The easiest switch to comfortable white light

MASTER CityWhite CDO-TT

Ceramic metal halide lamp with clear tubular outer bulb shape, used in outdoor offering pleasant white light

Benefits

- White warm color impression providing comfort and safety
- Easy upgrade from SON to white light without additional cost
- Flexible light levels and reduced energy consumption possible via dimming option

Features

- High-quality white light
- Directly retrofit on HPS (SON/NAV) installations for upgrade from yellow to white light
- "Plus" concept with high efficacy translates into high light output and improved lumen maintenance
- Good color rendering and harmonized warm white color temperature
- Dimmable

Application

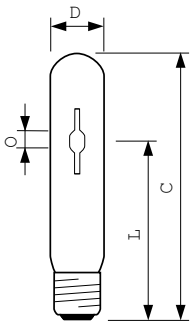
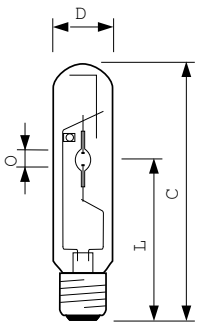
- Beautification and functional lighting for City centers, shopping centers and pedestrian areas, residential areas, road lighting and floodlighting

MASTER CityWhite CDO-TT

Versions



Dimensional drawing



Product	D	O	L	C
MASTER CityWhite CDO-TT Plus 250W/940 E40	47 mm	12.30 mm	158 mm	255 mm
MASTER CityWhite CDO-TT Plus 250W/940 E27	47 mm	12.30 mm	158 mm	255 mm
MASTER CityWhite CDO-TT Plus 250W/830 E40	47 mm	12.1 mm	157 mm	257 mm
MASTER CityWhite CDO-TT Plus 150W/828 E40	47 mm	10 mm	132 mm	211 mm
MASTER CityWhite CDO-TT Plus 100W/828 E40	47 mm	8.5 mm	132 mm	211 mm
MASTER CityWhite CDO-TT Plus 150W/942 E40	46 mm	10 mm	132 mm	211 mm
MASTER CityWhite CDO-TT Plus 250W/940 E39	47 mm	12.30 mm	158 mm	255 mm

Product	D	O	L	C
MASTER CityWhite CDO-TT Plus 50W/828 E27	36 mm	5.25 mm	102 mm	156 mm
MASTER CityWhite CDO-TT Plus 70W/942 E27	36 mm	7.75 mm	102 mm	156 mm
MASTER CityWhite CDO-TT Plus 70W/828 E27	36 mm	7.15 mm	102 mm	156 mm

MASTER CityWhite CDO-TT

General Information

Operating Position UNIVERSAL

Mechanical and Housing

Bulb Finish Clear

Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	80 kWh	A+	7.8 mg
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	80 kWh	A+	6.5 mg
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	107 kWh	A+	11.6 mg
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	162 kWh	A+	15.8 mg
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	164 kWh	A+	12.6 mg

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	275 kWh	A+	25.3 mg
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	58 kWh	A+	5.4 mg
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	275 kWh	A+	19.5 mg
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	275 kWh	A+	19.5 mg
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	-	-	19.5 mg

Controls and Dimming

Order Code	Full Product Name	Dimmable
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	Yes
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	Yes
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	Yes
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	Yes
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	Yes

Order Code	Full Product Name	Dimmable
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	Yes
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	Yes
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	No
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	No
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	No

Operating and Electrical

Order Code	Full Product Name	Lamp Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Power (Rated) (Nom)	Re-ignition Time (Min) (Max)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	0.95 A	101 V	85 V	93 V	73.0 W	720 s
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	0.795 A	-	-	93 V	73.0 W	720 s
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	1.2 A	105 V	89 V	97 V	97.0 W	900 s
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	1.8 A	106 V	90 V	98 V	148.0 W	900 s
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	1.814 A	-	-	97 V	149.0 W	900 s
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	2.92 A	108 V	92 V	100 V	250.0 W	900 s
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	0.760 A	92 V	76 V	84 V	53.0 W	720 s
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	3 A	112 V	92 V	102 V	250.0 W	900 s
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	3 A	112 V	92 V	102 V	250.0 W	900 s
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	3 A	112 V	92 V	102 V	250.0 W	900 s

General Information (1/2)

Order Code	Full Product Name	Life To 10%		Life To 20%		Life To 50%		Life To 5%		LSF 12000 h	LSF 16000 h
		Cap-Base	Failures (Nom)	Failures (Nom)	Failures (Nom)	Failures (Nom)	Failures (Nom)	Rated	Rated		
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	E27	12000 h	16500 h	27000 h	9500 h	90 %	81 %			
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	E27	8000 h	12000 h	20000 h	6000 h	80 %	65 %			

MASTER CityWhite CDO-TT

Order Code	Full Product Name	Cap-Base	Life To 10%	Life To 20%	Life To 50%	Life To 5%	LSF 12000 h	LSF 16000 h
			Failures (Nom)	Failures (Nom)	Failures (Nom)	Failures (Nom)	Rated	Rated
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	E40	20000 h	22500 h	27000 h	18000 h	99 %	97 %
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	E40	20000 h	22500 h	27000 h	18000 h	99 %	97 %
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	E40	8000 h	12000 h	20000 h	6000 h	80 %	65 %
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	E40	16000 h	18500 h	23000 h	14000 h	98 %	90 %
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	E27	12000 h	14500 h	20000 h	9500 h	90 %	74 %
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	E40	9000 h	12000 h	18000 h	-	-	-
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	E40	9000 h	12000 h	18000 h	-	-	-
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	E39	9000 h	12000 h	18000 h	-	-	-

General Information (2/2)

Order Code	Full Product Name	LSF	LSF	LSF	LSF	LSF	Order Code	Full Product Name	LSF	LSF	LSF	LSF	LSF
		2000 h	20000 h	4000 h	6000 h	8000 h			2000 h	20000 h	4000 h	6000 h	8000 h
		Rated	Rated	Rated	Rated	Rated			Rated	Rated	Rated	Rated	Rated
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	99 %	71 %	99 %	98 %	96 %	928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	99 %	71 %	99 %	99 %	99 %
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	99 %	50 %	98 %	95 %	91 %	928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	99 %	50 %	99 %	99 %	98 %
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	99 %	90 %	99 %	99 %	99 %	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	99 %	90 %	99 %	99 %	99 %	928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	99 %	50 %	98 %	95 %	91 %	928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	-	-	-	-	-

Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)	Order Code	Full Product Name	Bulb Temperature (Max)
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	350 °C	928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	450 °C
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	350 °C	928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	350 °C
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	450 °C	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	450 °C
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	450 °C	928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	450 °C
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	450 °C	928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	450 °C

Light Technical (1/2)

MASTER CityWhite CDO-TT

Order Code	Full Product Name	Chromaticity	Chromaticity	Color Code	Color Designation	Correlated Color Temperature (Nom)	Color Rendering Index (Nom)	LLMF 12000 h Rated
		Coordinate X (Nom)	Coordinate Y (Nom)					
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	446	393	828	Warm White (WW)	2800 K	90	80.5 %
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	363	365	942	Cool White (CW)	4200 K	90	80 %
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	445	395	828	Warm White (WW)	2800 K	88	85 %
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	445	395	828	Warm White (WW)	2800 K	87	85 %
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	371	380	942	Cool White (CW)	4200 K	91	80 %
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	426	390	830	Warm White (WW)	3000 K	88	85 %
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	443	395	828	Warm White (WW)	2800 K	89	80 %
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	377	372	940	Cool White (CW)	4000 K	90	-
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	377	372	940	Cool White (CW)	4000 K	90	-
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	377	372	940	Cool White (CW)	4000 K	90	-

Light Technical (2/2)

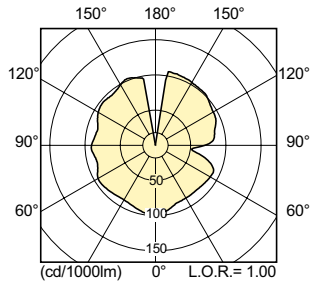
Order Code	Full Product Name	LLMF 16000	LLMF 2000 h	LLMF 20000	LLMF 4000 h	LLMF 6000 h	LLMF 8000 h	Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)
		h Rated	Rated	h Rated	Rated	Rated	Rated		
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	76.5 %	97 %	73.5 %	93 %	89.5 %	86 %	103 lm/W	7500 lm
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	75 %	92 %	70 %	87 %	84 %	83 %	100 lm/W	7300 lm
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	82 %	95 %	80 %	92 %	90 %	88 %	108 lm/W	10500 lm
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	82 %	95 %	80 %	92 %	90 %	88 %	110 lm/W	16500 lm
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	78 %	92 %	76 %	87 %	84 %	83 %	109 lm/W	16300 lm
928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	82 %	95 %	80 %	92 %	90 %	88 %	113 lm/W	28300 lm
928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	74 %	98 %	71 %	96 %	92 %	88 %	104 lm/W	5500 lm
928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-	-	106 lm/W	26500 lm
928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	-	-	-	-	-	-	106 lm/W	26500 lm
928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	-	-	-	-	-	-	106 lm/W	26500 lm

Mechanical and Housing

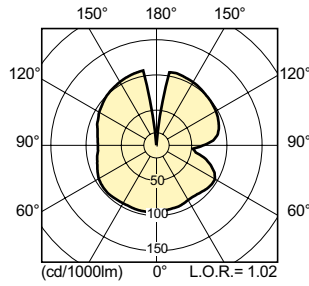
MASTER CityWhite CDO-TT

Order Code	Full Product Name	Bulb Shape	Order Code	Full Product Name	Bulb Shape
928082019235	MASTER CityWhite CDO-TT Plus 70W/828 E27	T35	928082319230	MASTER CityWhite CDO-TT Plus 250W/830 E40	T46
928082619230	MASTER CityWhite CDO-TT Plus 70W/942 E27	T35	928082419235	MASTER CityWhite CDO-TT Plus 50W/828 E27	T31
928082119231	MASTER CityWhite CDO-TT Plus 100W/828 E40	T46	928487500191	MASTER CityWhite CDO-TT Plus 250W/940 E40	T46
928082219231	MASTER CityWhite CDO-TT Plus 150W/828 E40	T46	928487500192	MASTER CityWhite CDO-TT Plus 250W/940 E40	T46
928082519230	MASTER CityWhite CDO-TT Plus 150W/942 E40	T46	928487600191	MASTER CityWhite CDO-TT Plus 250W/940 E39	T46

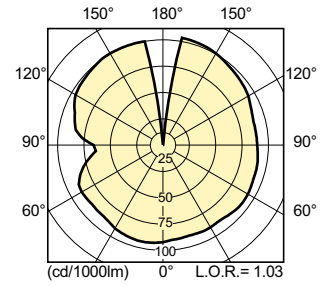
Light Distribution Diagrams



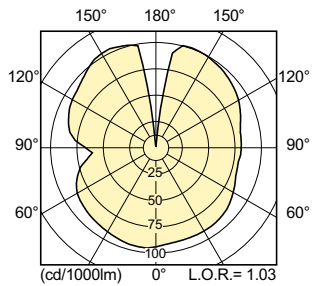
CDO-TT Plus 70W /828 E27



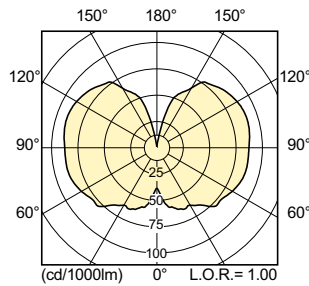
CDO-TT Plus 100W /828 E40



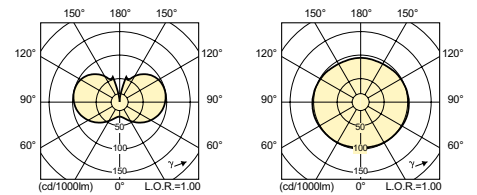
CDO-TT Plus 150W /828 E40



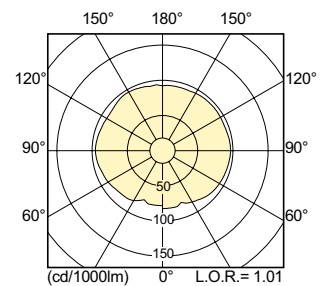
CDO-TT Plus 250W /828 E40 horizontal (HOR) burning



CDO-TT Plus 250W /830 E40 vertical base up (BU) burning



CDO-TT Plus 50W /828 E27



Light Distribution Diagrams

